BIRTHS

NOTE: On July 1, 2005 Vermont implemented a revised birth certificate based on the 2003 revision of the U.S. Standard Certificate of Live Birth. The revised certificate included a number of changes to what is reported to the Health Department; therefore, some tables in this report were modified, and explanations are provided in footnotes. Substantial changes which affected trends in data are explained in more detail throughout this text. Comparisons to U.S. white rates are made when possible, but in some cases comparisons can only be made to the other 12 states who also revised their birth certificates in 2005, or earlier. Those states will be referred to as the "revised states".

In 2005, 6,475 babies were born to Vermont residents. This represents a decrease of one hundred twenty-two births from 2004, and it's the first decrease in four years. Until 2002, the number of babies born to Vermont residents had declined every year since 1989. The crude birth rate in 2005 is 10.4 per 1,000 Vermont residents, down from 10.6 in 2004. The U.S. white birth rate for 2005 was 13.4. Comparisons are made to the U.S. white rate because 96.4 percent of Vermont resident births were to white mothers in 2005 (Table B-5). The Vermont birth rate peaked in 1955 at 24 per 1,000 residents; it then dropped for two decades, remained relatively stable from the late 1970's through the 1980's, and slowly and steadily decreased through the 1990's before stabilizing in recent years.

FERTILITY

Although the crude birth rate is based on the total population, a better measure of birth patterns is the fertility rate which is based on the population of women ages 15 through 44, the peak child-bearing years. The 2005 Vermont fertility rate was 50.8 per 1,000 women ages 15 through 44 (Table B-8), a slight decrease from the 2004 rate of 51.9. The U.S. white fertility rate was 66.3 in 2005. The fertility rate in Vermont peaked in 1960 at 126, declined through the 1960's and 1970's, leveled off slightly in the 1980's, steadily declined through the early 90's, and has remained fairly stable since 1995. Age-specific fertility rates have generally declined among the younger age groups (<30), and increased among the older age groups, with the largest increase among 30-34 year olds.

FIGURE 5
AGE-SPECIFIC FERTILITY RATES, SELECTED YEARS 1980-2005

AGES/ YEAR	1980	1990	2000	2005
TOTAL	**63.3**	**60.6**	**49.7**	**50.8**
15 – 19	38.5	34.1	23.4	19.4
20 – 24	102.4	93.9	74.1	65.1
25 – 29	113.0	114.6	102.1	99.3
30 – 34	60.2	79.5	84.0	97.5
35 – 44	12.5	19.6	21.3	23.4

Just about half of all births (50.3 %) in 2005 were to women in their twenties (Table B-7), down from 56.1 percent in 1990. Women age 30 and over accounted for 42.8 percent of births, up from 42.6 in 2004, and up from 35.4 percent in 1990. Women age 15 through 19 accounted for 6.7 percent of births, down from 7.1 in 2004, and down from 8.5 percent in 1990.

BIRTH WEIGHT

The median birth weight for all resident births in 2005 was 3,430 grams (7 pounds, 9 ounces). Low birth weight infants are those born weighing less than 2,500 grams (5 pounds 8 ounces). They are much more likely than heavier babies to suffer short and long term disabilities, and to die in infancy. In 2005, 6.2 percent of Vermont resident births were low birth weight (Table B-16) and 1.2 percent were very low birth weight (less than 1,500 grams or 3 pounds 5 ounces). The U.S. white low birth weight rate for 2005 was 7.2 percent. The Vermont low birth weight rate remains above the *Healthy Vermonters 2010* goal of 5.0 percent and the very low birth weight rate is slightly above the *Healthy Vermonters 2010* goal of 0.9 percent.

Low birth weight rates vary by age groups (Table B-16): in Vermont the low birth weight rate among women under age 20 was 7.6 percent, compared to 6.0 percent of births among women age 20-29 and 6.1 percent of births among women age 30 and older.

Infant birth weight is also positively associated with maternal weight gain: mothers who do not gain adequate weight during pregnancy are more likely to deliver low birth weight infants. On the other hand, there are risks associated with gaining too much weight including delivery complications, maternal and infant obesity. Although the weight gained by 19.6 percent of Vermont mothers in 2005 fell below the range recommended by the Institute of Medicine, 47.7 percent gained above the recommended range (Table B-31). Please refer to Appendix B for further information on the guidelines.

The single most important preventable risk factor for low birth weight is smoking during pregnancy. The low birth weight rate among women who smoked cigarettes during their pregnancy was 10.8 percent compared to 5.2 percent among women who did not smoke during pregnancy (Table B-28). The rate of women who reported smoking during pregnancy in 2005 was 18.5 percent, down slightly from 19.7 percent in 2004. Among those who smoked before pregnancy or during the first trimester, 27.4 percent quit.

PRENATAL CARE

Early, comprehensive, and high quality prenatal care is essential for a healthy pregnancy and birth. Through prenatal care, pregnant women are screened for medical conditions and counseled on nutrition, behavioral risks (such as using tobacco and alcohol), and domestic violence.

In 2005, 84.1 percent of the babies were born to mothers who began prenatal care in the first three months of pregnancy (Table B-20). Though this is a decrease from 90 percent in 2004 (which was at the *Healthy Vermonters 2010* goal), these rates are not directly comparable. The calculation for month prenatal care began was changed in 2005 with the implementation of the new birth certificate. Analysis by the Vermont Department of Health shows that change in calculation for month prenatal care began reduces the rate of entry into first trimester prenatal care by about 7 percent. Please refer to Appendix B for more information. In general, the percentage of women receiving first trimester prenatal care has steadily increased since 1987. Vermont's rate in 2005 was higher than the 77.2 percent experienced by non-Hispanic white mothers in the 12 states who also revised their birth certificates.

The proportion of births in 2005 to Vermont mothers who delayed care to the third trimester or received no prenatal care was 2.6 percent, up from 1.5 percent in 2004. Again, these rates are not directly comparable due to the change in calculation of month prenatal care began. The proportion of women receiving late or no prenatal care in 2005 was 4.9 percent for non-Hispanic white mothers in the other revised states. As in previous years, the age of the mother is closely associated with the time of entry to prenatal care with young women seeking care later than older women.

Based on the APNCU Index, in 2005, 87.2 percent of Vermont resident mothers received at least adequate prenatal care, (Table B32). The percent of Vermont mothers who received inadequate care was 8.1. Teen mothers had the highest percent of inadequate care (15.3 percent) while mothers 30 and older had the highest percent of adequate plus intensive care (90.3 percent). U.S. rates for these characteristics are not available for comparison.

MEDICAL RISK FACTORS

The biggest changes to the revised birth certificate were in the medical section. The lists of items in the pregnancy risk factors and complications of labor and delivery sections were modified and some wording was changed to obtain better information about the most prevalent risk factors and about the conditions that may be present during labor and delivery. Because of these changes and the fact that Vermont implemented the new birth certificate on July 1st, only items that are comparable between birth certificate revisions are presented in this report **(**Table B-29**)**.

Of those births with medical risk factors reported, the most common were gestational hypertension and gestational diabetes. The most common characteristics of labor and delivery were induction of labor and premature rupture of membranes.

DELIVERIES

The format and wording of the Method of Delivery item was changed on the revised birth certificate, and preliminary analyses done by the National Center for Health Statistics indicate that "although data on total cesarean delivery appear very comparable, data on VBAC [vaginal birth after cesarean delivery], primary, and repeat cesarean deliveries are not directly comparable between revisions…" (1) Of babies born in Vermont hospitals in 2005, 26.9 percent were delivered by cesarean section (Table B-27) compared to 29.2 percent for U.S. white women in 2005. The primary cesarean section rate was 17.1 percent in Vermont for 2005, lower than the 24.5 percent for non-Hispanic white mothers in the revised states in 2005. Of mothers delivering in Vermont hospitals in 2005 who had a previous delivery by cesarean section, 13.5 percent had vaginal births, compared to 9.6 percent for non-Hispanic white mothers in the revised states in 2005.

(1) Births: Final data for 2005. National vital statistics reports; vol 56 no 6. Hyattsville, MD: National Center for Health Statistics. 2007.